

BLUE EARTH COUNTY HIGHWAY DEPARTMENT

CONSTRUCTION PLAN FOR BITUMINOUS
OVERLAY & AGGR. SHOULDER

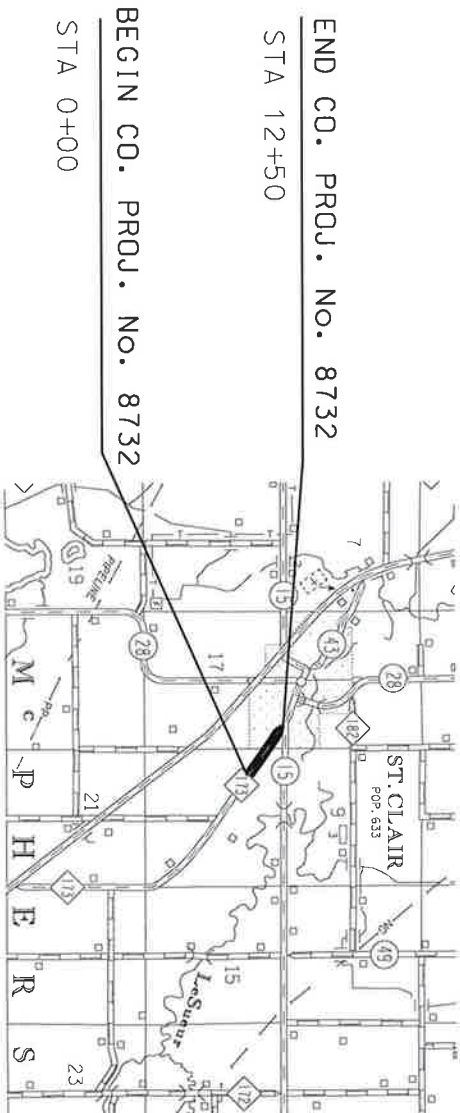
COUNTY ROAD NO. 173

BETWEEN: E. CITY LIMITS OF ST. CLAIR
AND CSAH 15

FROM: A PT. 0' E. AND 722' S. OF THE NE COR.
OF SEC. 17-107-25
TO: A PT. 894' W. AND 0' N. OF THE NE COR.
OF SEC. 17-107-25

GROSS LENGTH 1250.00 FEET 0.237 MILES
BRIDGE LENGTH 000.00 FEET 0.000 MILES
NET LENGTH 1250.00 FEET 0.237 MILES

OVERLAYED IN:
GRADED IN:



R 25 W

T 107 N

DESIGN DESIGNATION

ADT (Current Year) 2012
ADT (Future Year) 2032
ADT (Heavy Commercial)
ESAL 000,000

TON DESIGN

DESIGN SPEED 55 MPH
DESIGN SPEED NOT ACHIEVED AT:
SOIL FACTOR 130
SHOULDER WIDTH
STOPPING SIGHT DISTANCE BASED ON
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION'S "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

INDEX OF SHEETS

SHEET NO. 1	TITLE
SHEET NO. 2	ESTIMATED QUANTITIES
SHEET NO. 3	STANDARD PLATES
SHEET NO. 4-5	CHARTS
SHEET NO. 6	TYPICAL SECTIONS
SHEET NO. 7	DETAILS

PLAN NOT TO SCALE

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE
COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Alan Forsberg
COUNTY ENGINEER
ALAN FORSBERG

DATE *2/2/12* LIC. NO. 14720

DISTRICT STATE AID ENGINEER REVIEWED FOR
COMPLIANCE WITH STATE-AID RULES/POLICY

STATE AID ENGINEER APPROVED FOR STATE AID FUNDING

DATE

CO. PROJ. NO. 8732 SHEET NO. 1 OF 7 SHEETS

ESTIMATED QUANTITY

ITEM NO.	ITEM	UNIT	CR # 173	NON PART.	TOTAL
(1)	2118.501 AGGREGATE SURFACING, CL-2	TON	36	0	36
(1)	2357.502 BITUMINOUS MATERIAL FOR TACK COAT	GAL	195	0	195
(1)	2360.609 BITUMINOUS MATERIAL FOR MIXTURE (PG 58-28)	TON	16	0	16
(1)	2360.609 BITUMINOUS AGGREGATE (CLASS "A" INTERMEDIATE)	TON	89	0	89
(1)	2360.609 BITUMINOUS AGGREGATE (CLASS "A" FINE)	TON	76	0	76
(1)	2360.609 BITUMINOUS AGGREGATE (GRAVEL INTERMEDIATE)	TON	64	0	64
(1)	2360.609 BITUMINOUS AGGREGATE (GRAVEL FINE)	TON	25	0	25
(1)	2360.609 BITUMINOUS (PRODUCE, HAUL & LAY)	TON	270	0	270
(1)(2)	2506.522 ADJUST FRAME & RING CASTING	EACH	4	0	4
(3)	2580.501 TEMPORARY LANE MARKING	LIN FT	100	0	100

- (1) BASIS OF PAYMENT SPECIFIED IN SPEC. 1903 SHALL BE MODIFIED TO PRECLUDE ANY PRICE ADJUSTMENT FOR INCREASED OR DECREASED QUANTITIES.
- (2) APPROXIMATE: 4 MANHOLES, CONCRETE OR CAST IRON ADJUSTMENT RINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO RAISING.
- (3) PLACED ON EVERY LIFT, REMOVED BEFORE NEXT LIFT AND PRIOR TO STRIPING.

CERT. BY Alan Forberg LIC. NO. 14720 MAR. 10, 2013 CO. PROJ. NO. 8732 SHEET NO. 2 OF 7 SHEETS

PROFESSIONAL ENGINEER

BASIS FOR PLANNED QUANTITIES

AGGREGATE SHOULDERING, & SURFACING

COMPACTED DRY DENSITY - 140 LBS. PER CU. FT.

BITUMINOUS SURFACE

BITUM. MAT'L FOR TACK COAT 0.05 GALS. PER SQ. YD.

BITUM. MAT'L FOR WEAR COURSE AC (PG 58-40) 5.8% BY WEIGHT

BITUM. COURSES, 110 LBS. PER 1" / SQ. YD.

AGGREGATE PROPORTIONS : 35% CLASS "A" INTERMEDIATE

30% CLASS "A" FINE

25% GRAVEL INTERMEDIATE

10% GRAVEL FINE

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY

STANDARD PLATES	
PLATE NO.	DESCRIPTION
80001	STANDARD BARRICADES

CERT. BY Alan Fording LIC. NO. 14720 MAR. 10, 2013 CO. PROJ. NO. 8732 SHEET NO. 3 OF 7 SHEETS

PROFESSIONAL ENGINEER

SURF. QUANTITIES
ROAD # CR 173
PROJECT # CO. PROJ. No. 8732

LOCATION	LENGTH FEET	AVER WIDTH FEET	AGGR. SURF. TON
AGGR. SURFACING CL-2			
3 DRIVEWAYS @			21
1 INTERSECTIONS @			15
TOTAL			36

P:\BITUM\12bitum\CR 173\173 AGGR.xsl/A

SHOULDERING & SURFACING QUANTITIES

CERTIFIED BY

Alan Forsberg

LIC. NO. 14720 MAR. 10, 2012

CO. PROJ. No. 8732 SHEET 4 OF 7 SHEETS

CR 173 SUPERPAVE BITUM. CALCULATIONS								
LOCATION		LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	WEAR TON	BINDER TON	BITUM MAT'L TON	TACK COAT GAL
BITUM. WEAR	STA 0 + 0 TO STA 12 + 55	1255	28	1	215		12.5	195
	1 INTERSECTIONS @ 55 TONS				55		3.2	
TOTAL					270	0	16	195

P:\BITUM\12blum\CR 173\173 Superpave.xls/A

CR 173 SUPERPAVE BITUM. QUANTITIES									
MIX TONS	BITUM MAT'L 5.8% TON	TOTAL AGGR. TONS	BITUM CL. "A" INTERM 35% TON	BITUM CL. "A" FINE 30% TON	BITUM GRAVEL INTERM. 25% TON	BITUM GRAVEL FINE 10% TON	PRODUCE HAUL LAY TON		
WEAR	270	16	254	89	76	64	25		270
TOTAL			89	76	64	25			270

SURFACING QUANTITIES

CERTIFIED BY

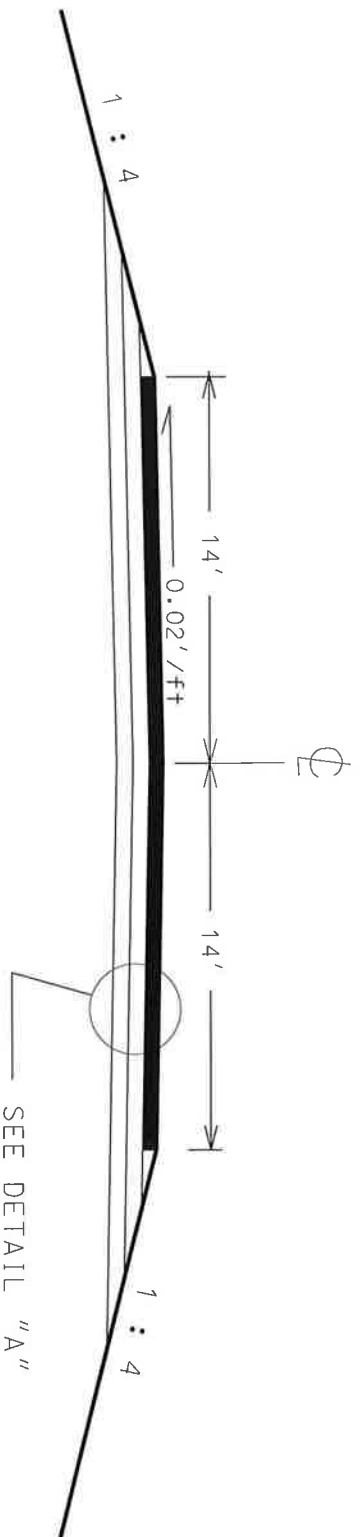
Alan Foraleng

LIC. NO. 14720 MAR. 10, 2012

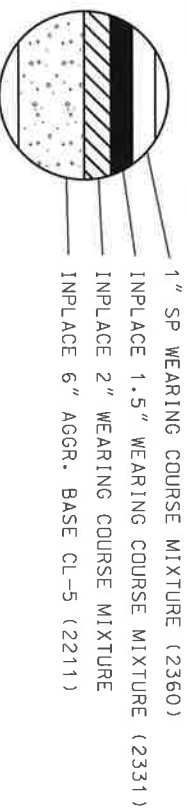
CO. PROJ. No. 8732 SHEET No. 5 OF 7 SHEETS

TYPICAL SECTION

STA 0 + 00 TO STA 12 + 50



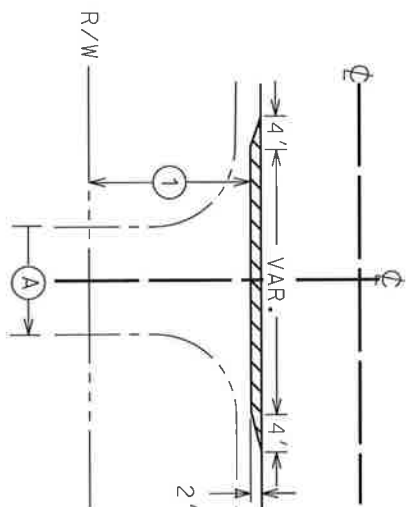
DETAIL "A"



CERT. BY Alan Forsberg PROFESSIONAL ENGINEER LIC. NO. 14720 MAR. 10, 2013 CO. PROJ. NO. 8732 SHEET NO. 6 OF 7 SHEETS

BITUMINOUS APPROACHES AND ENTRANCES DETAIL

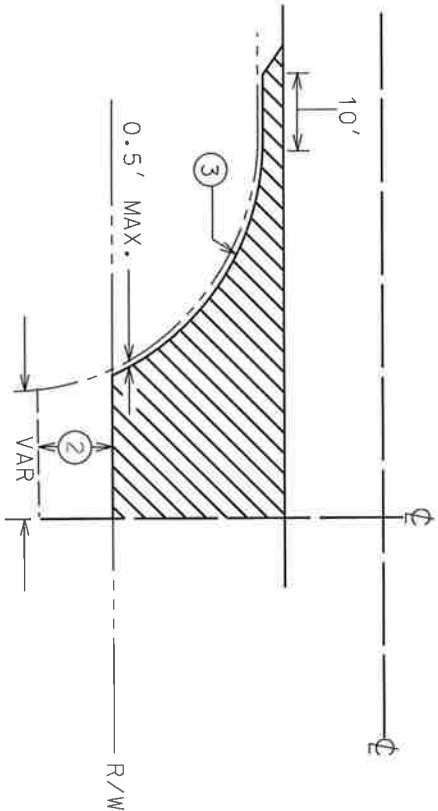
FIELD ENTRANCE



- ① 20' FOR SINGLE F.E.
28' FOR DOUBLE F.E.

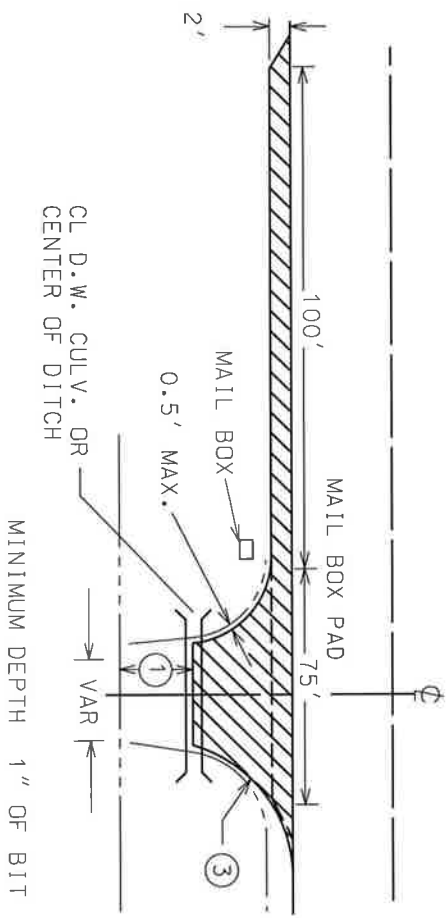
MINIMUM DEPTH 1" OF BIT

ROAD APPROACH



MINIMUM DEPTH 1" OF BIT

FARM & OTHER ENTRANCES



- ① FINISH WITH AGGR. MATERIAL FROM
EDGE OF BITUM. TO A MIN. OF 10'.
- ② FINISH WITH AGGR. MATERIAL, MIN. OF 10'.
- ③ BITUM. RADIUS TO BE STAKED IN
FIELD BY THE ENGINEER - 25' MIN.
(FOR FARM D.W. CONSIDER 30' TO 40' MAX.)

CONTRACTOR WILL BE REQUIRED TO SHAPE & NOTCH ALL DRIVEWAYS, INTERSECTIONS & MAIL BOX PADS THAT ARE NOT ALREADY PAVED AS DIRECTED BY THE ENGINEER. WORK SHALL BE DONE INCIDENTAL TO THE WEAR.

CONTRACTOR WILL BE REQUIRED TO HAND FINISH SHOULDERS ON ALL APPROACHES AND ENTRANCES AS DIRECTED BY THE ENGINEER.